

March 13, 1948.

Dr. N. K. Richtmyer,
National Institute of Health,
Bethesda 14, Maryland.

Dear Dr. Richtmyer,

We are undertaking here an investigation of the specificity of mutations in *Escherichia coli* affecting lactose fermentation. In this study, it has been found possible to differentiate two classes of lactose-negative mutants on the basis of their reactions on h-methyl-galactoside, of which Dr. W. Pigman kindly provided the initial sample. At his suggestion, I am writing to ask whether you are in a position to cooperate by providing us with samples (of the order of 1 gm.) of other configurationally related substrates. While you are probably in a favorable position to suggest likely compounds, I have had in mind the following particularly:

1. Alkyl-α-l-arabinopyranoside (Methyl- has been found adequate, n-Butyl- somewhat better in the galactosides)
2. Allo-lactose (h-6-glucose-galactoside)
3. Neolactose (h-4-glucose-galactoside).

If you should have available samples of other h-galactosides with varied aglucons, I would be very grateful for any quantity of them. Do you know, also, of anyone who might have some lactositol. I was surprised to find that the alternative modification of the free CHO in lactose, ie, lactobionic acid, renders the compound inert to *E. coli*. For this reason it would be interesting to test lactosides, but I don't want to prolong my request to an unreasonable limit.

Yours sincerely,

Joshua Lederberg
Assistant Professor of Genetics.